



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,625	04/12/2004	Michael Krebs	HENK-0066/H5395	3301
38857 7590 05/21/2007 WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER NILAND, PATRICK DENNIS	
			ART UNIT 1714	PAPER NUMBER
			MAIL DATE 05/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/822,625

Applicant(s)

KREBS ET AL.

Examiner

Patrick D. Niland

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 4/13/07 and 2/12/07 have been entered.

The amendment of 4/13/07 has been entered. Claims 1-8 and 10-35 are pending.

2. Claims 32-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. It is unclear what is intended by "additionally consisting of" of claims 32-35. It is unclear if this language requires the recited ingredient to be used in addition to the diphenylmethane diisocyanate and at least one compound of the recited Markush group of claim 1 or if the compounds following the language "additionally consisting of" are further describing the "at least one compound". The first possibility is inconsistent with the legal definition of "consisting" of claim 1. The second possibility appears to broaden what is encompassed by the "at least one compound" of claim 1. It is therefore unclear what is intended by claims 32-35.

3. Claims 32-35 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

A. It is unclear what is intended by "additionally consisting of" of claims 32-35. It is unclear if this language requires the recited ingredient to be used in addition to the diphenylmethane

Art Unit: 1714

diisocyanate and at least one compound of the recited Markush group of claim 1 or if the compounds following the language “additionally consisting of” are further describing the “at least one compound”. The first possibility is inconsistent with the legal definition of “consisting” of claim 1. The second possibility appears to broaden what is encompassed by the “at least one compound” of claim 1. It is therefore unclear what is intended by claims 32-35.

Both possible interpretations of “additionally consisting of” broaden claim 1, which is directly contrary to what a dependent claim is required to do.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-8, 10-22, 24-25, 27-31, and 34-35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 5994493 Krebs. Although the conflicting claims are not identical, they are not patentably distinct from each other because, although the claims differ somewhat in scope, it would have been obvious to one of ordinary skill in the art to practice the instantly claimed inventions from the claims of the patentee because the patented claims encompass the instantly claimed invention. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional compounds of the patented claims are encompassed by "comprising" of the instant claims.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language "at least one compound". The polyol ii falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Claim 9 of the patentee recites 2,4' diphenylmethane diisocyanate. For these reasons, the applicant's arguments are not persuasive on their face regarding the instant claims. The remaining ingredients of the instant claim 1 are optional, i.e. not required. The polyester polyol of the patentee's claim 1 ingredient i is also encompassed by

Art Unit: 1714

the instant claim language. "Liquid" of the patented claims polyol is expected to include "partly crystalline" polyols where the polyols of the patented claims have the upper molecular weights and linear, non-branched segments. These crystalline segments may be solvated by the other amorphous segments to give liquid final product. This reads on the instant claim 12. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29. The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 14-17, 19, and 22 based on the definition of average molecular weight. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric isocyanate meets the instant claim 14. The process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular

Art Unit: 1714

weights falling within the scope of those of the instant claims. This rejection is therefore maintained.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-8, 10-22, 24-25, 27-31, and 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5994493 Krebs.

Krebs discloses the instantly claimed adhesives and methods of making them at the abstract; column 4, lines 23-67, particularly lines 23-25, 27-32, and 57-60; column 5, lines 5-67; column 6, lines 1-67; column 7, lines 1-67, particularly 1-6; column 10, lines 1-67, particularly 18-45, 53, and 53-67; column 11, lines 1-67, particularly 1-18; column 12, lines 1-67, particularly 11 and 36-39; column 13, lines 1-8; column 14, lines 1-7, particularly 5-7; and the remainder of the document. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional components of the patented claims are encompassed by “comprising” of the instant claims.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language “at least one compound”. The polyol ii falls within the scope

Art Unit: 1714

of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Claim 9 of the patentee recites 2,4' diphenylmethane diisocyanate. For these reasons, the applicant's arguments are not persuasive on their face regarding the instant claims. The remaining ingredients of the instant claim 1 are optional, i.e. not required. The polyester polyol of the patentee's claim 1 ingredient i is also encompassed by the instant claim language. "Liquid" of the patented claims polyol is expected to include "partly crystalline" polyols where the polyols of the patented claims have the upper molecular weights and linear, non-branched segments. These crystalline segments may be solvated by the other amorphous segments to give liquid final product. This reads on the instant claim 12. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29.

The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 14-17, 19, and 22 based on the definition of average molecular weight. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric isocyanate meets the instant claim 14. The



Art Unit: 1714

process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims. This rejection is therefore maintained.

9. Claims 1-8 and 10-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5994493 Krebs.

Krebs discloses the instantly claimed adhesives and methods of making them at the abstract; column 4, lines 23-67, particularly lines 23-25, 27-32, and 57-60; column 5, lines 5-67; column 6, lines 1-67; column 7, lines 1-67, particularly 1-6; column 10, lines 1-67, particularly 18-45, 53, and 53-67; column 11, lines 1-67, particularly 1-18; column 12, lines 1-67, particularly 11 and 36-39; column 13, lines 1-8; column 14, lines 1-7, particularly 5-7; and the remainder of the document. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional components of the patented claims are encompassed by "comprising" of the instant claims.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language "at least one compound". The polyol ii falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of

Art Unit: 1714

less than 1000 when its Mn is below 1000. Claim 9 of the patentee recites 2,4' diphenylmethane diisocyanate. For these reasons, the applicant's arguments are not persuasive on their face regarding the instant claims. The remaining ingredients of the instant claim 1 are optional, i.e. not required. The polyester polyol of the patentee's claim 1 ingredient i is also encompassed by the instant claim language. "Liquid" of the patented claims polyol is expected to include "partly crystalline" polyols where the polyols of the patented claims have the upper molecular weights and linear, non-branched segments. These crystalline segments may be solvated by the other amorphous segments to give liquid final product. This reads on the instant claim 12. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29.

The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 14-17, 19, and 22 based on the definition of average molecular weight. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric isocyanate meets the instant claim 14. The process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly

Art Unit: 1714

claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims.

It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to perform the methods and make the adhesives of the patentee such that they fall within the scope of the instant claims because the patentee's disclosure and claims encompasses the instantly claimed inventions and the instantly claimed adhesives and methods of making them would have been expected to give the properties disclosed by the patentee.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the component of the instant claim 23 in the adhesive of the patentee because Krebs teaches that up to 10% triisocyanate may be used at column 4, lines 40-52 and trimethylolpropane and glycerol are the most common and well known means for achieving such triisocyanate prepolymers by reacting them with the typical well known diisocyanate monomers. It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the adhesion promoter of the instant claim 26 because Krebs teaches the use of additives to the adhesive to enhance its properties and aminosilanes having alkoxysilane functionality are well known for giving adhesion promotion to NCO functional hot melt adhesives and would have been expected to provide this function to the adhesives of Krebs.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular

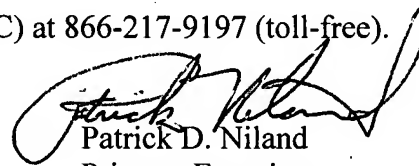
Art Unit: 1714

weights falling within the scope of those of the instant claims. It is not seen that the higher molecular weight polyols of the patentee do not give the adhesion promotion of the instant claims 32-35 by the modulus they contribute to the final product. This rejection is therefore maintained.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland  
Primary Examiner  
Art Unit 1714